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Notice of Allowability	Application No.	Applicant(s)	
	10/725,764	DEQUINA ET AL.	
	Examiner	Art Unit	
	Gary L. Laxton	2838	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment filed 2/18/05.
2. ☒ The allowed claim(s) is/are 20-27.
3. ☒ The drawings filed on 15 March 2004 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| <ol style="list-style-type: none"> 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) 2. <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | <ol style="list-style-type: none"> 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ 7. <input type="checkbox"/> Examiner's Amendment/Comment 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance 9. <input type="checkbox"/> Other _____ |
|---|--|

Gary L. Laxton
 Primary Examiner
 Art Unit: 2838

3/18/05

DETAILED ACTION

Allowable Subject Matter

1. Claims 20-27 are allowed.
2. The following is an examiner's statement of reasons for allowance: ✓

The reasons for allowance of the claims are made with the understanding that the interpretation of the phrases "LGATE", "UGATE", "LFET", "UFET", "LGATE voltage", "UGATE voltage", mean the following:

"LGATE" – the lower FET gate,

"UGATE" – the upper FET gate,

"LFET" – the lower FET,

"UFET" – the upper FET,

"LGATE" voltage – the lower FET gate voltage,

"UGATE" – the upper FET gate voltage.

Claims 20-24; prior art fails to disclose or suggest, inter alia, a control circuit for a switch mode DC-DC converter having an LGATE condition threshold detector being operative to monitor the gate of a lower FET, a UGATE condition threshold detector being operative to monitor the gate of an upper FET, and a phase node condition threshold detector being operative to monitor a phase node voltage at a phase node between the upper FET and lower FET; the switching control operator is operative to trigger the turn on of the upper FET in response to the turn off of the lower FET, and in response to the phase node voltage at the phase node having

Art Unit: 2838

reached a prescribed negative polarity voltage threshold following a predetermined blanking delay subsequent to the turn off of the lower FET.

Claims 25-27; prior art fails to disclose or suggest, inter alia, a method for controlling a switch mode DC-DC converter having the steps of monitoring a lower FET gate voltage, an upper FET gate voltage and a phase node voltage; and in response to the turn off of the lower FET and in response to the phase node voltage between the upper and lower FET reaching a prescribed negative polarity voltage threshold following a predetermined blanking delay subsequent to the turn off of the lower FET, triggering the turn on of the upper FET, thereby causing the phase node voltage to increase from a first voltage level to a second voltage level higher than the first voltage level.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

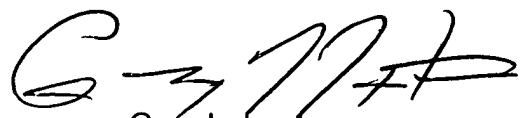
3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 6,037,720 Wong et al disclose a switched bridge circuit.

Art Unit: 2838

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gary L. Laxton whose telephone number is (571) 272-2079. The examiner can normally be reached on Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Sherry can be reached on (571) 272-2084. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

 3/18/05
Gary L. Laxton
Primary Examiner
Art Unit 2838